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REMARKS

The present response is intended to be fully responsive to all points of objection and/or rejection raised by the Examiner and is believed to place the application in condition for allowance. Favorable reconsideration and allowance of the application is respectfully requested.

Applicants assert that the present invention is new, non-obvious and useful. Prompt consideration and allowance of the claims is respectfully requested.

Status of Claims

Claims 2-6, 8-31 and 33-43 are pending in the application.

Claims 2-6, 8-31 and 33-41 have been rejected.

Claims 1 and 32 have been cancelled without prejudice in this submission.

Claims 2, 3, 4, 6, 8, 12, 22, 29, 33, 34 and 38 have been amended in this submission.

Applicants respectfully assert that the amendments to the claims add no new matter.

Claims 42 and 43 have been newly added in this submission. Applicants respectfully assert that the amendments to the claims add no new matter.

CLAIM REJECTIONS

35 U.S.C. § 103 Rejections

In the Office Action, the Examiner rejected claims 1-3, 6, 8-13, 15-16, 18-24, 26-32, 34-36 and 38-40 under 35 U.S.C. § 103(a), as being unpatentable over Taniguchi et al. (US Patent No. 6,366,291), in view of Hill et al. (US Patent No. 6,243,070), and further in view of Chen et al. (US Patent No. 6,844,881). Applicants respectfully traverse this rejection in view of the remarks that follow. Claims 1 and 32 have been cancelled without prejudice in this submission, rendering the Examiner's rejection of these claims moot.

Regarding claims 42 and 43, the combination of Taniguchi and Hill do not teach or suggest at least “calculating an adjusted intensity value for said first primary color component using a conversion operator to correct a chromaticity of said second primary color component of the pixel” as recited in cancelled claim 1. This is also indicated by the examiner in pages 4-5 of the Office action.

Accordingly, the combination of Taniguchi and Hill do not teach or suggest at least “determining at least a chromaticity correction for said first primary color component based at least in part on said second primary color component of said input color data; and adjusting the intensity value of said first primary color component of said input pixel color data by combining said first primary color component of said input pixel color data and said chromaticity correction for said first primary color component”, as recited in new claim 42.

Chen et al. cannot cure the deficiencies of Taniguchi and Hill. Chen et al. disclose gamma correction which maintains a substantially consistent white point over a plurality of gray levels, deriving a correction function for one color component based on the “target transfer function” and the “native transfer functions”. Correction functions for the other color components are derived from the first correction function to ensure the stability of the white point corresponding to digital signals for various gray levels. A declared purpose of Chen et al. is to “perform gamma corrections... such that gamma corrections maintain a substantially consistent white point over a plurality of gray levels from a white to a black” (Chen et al, column 6, lines 18-23). However, Chen et al. cannot provide solutions for other color distortions.

Additionally, Chen does not provide corrected chromaticity of a primary color. The correction functions of Chen et al. are for correcting the intensity of each primary color separately, in order to correct chromaticity of a gray color obtained from a combination of these primary colors. The chromaticity of the primary colors does not change in the process.

In the present invention, however, adjusted RGB values which may yield a correct chromaticity may be calculated based on device dependent predefined chromaticity values which define artificial “imaginary” primary colors, as disclosed, for example, in paragraphs

[0048]-[0056] of the application. For each intensity level of each of the “imaginary primary colors”, intensity values of R, G and B components may be obtained, which produce the correct chromaticity of the “imaginary primary color” and intensity of the imaginary primary color required by the input color data, taking into account the dependency of the chromaticity of the R, G and B components on their intensity. Then, the adjusted R value may be calculated by combining the R intensity values of all the “imaginary primary colors”, the adjusted G value may be calculated by combining the G intensity values of all the “imaginary primary colors” and the adjusted B value may be calculated by combining the B intensity values of all the “imaginary primary colors” (see paragraph [0056] of the application).

Chen et al., therefore, do not teach or suggest at least “receiving input pixel color data including at least first and second intensity values for first and second primary color components, respectively; determining at least a chromaticity correction for said first primary color component based at least in part on said second primary color component of said input color data; and adjusting the intensity value of said first primary color component of said input pixel color data by combining said first primary color component of said input pixel color data and said chromaticity correction for said first primary color component”, as recited in new claim 42. It would not have been obvious to include these limitations of claim 42 in Chen et al. nor in Taniguchi et al. in view of Hill. Accordingly, independent claim 42 is allowable.

Claims 2-3, 6, 8-13, 15-16, 18-24 and 26-31 depend from, directly or indirectly, claim 42, and therefore include all the limitations of this claim. At least for this reason claims 2-3, 6, 8-13, 15-16, 18-24 and 26-31 are likewise allowable. Accordingly, Applicants respectfully request that the Examiner withdraw the rejections under 35 U.S.C. § 103(a) to claims 2-3, 6, 8-13, 15-16, 18-24 and 26-31.

For the reasons set forth above, neither Taniguchi, Hill nor Chen et al., alone or in combination, teach or suggest, at least “a chromaticity adjustment unit to provide an adjusted intensity value of a first primary color component of a pixel, said chromaticity adjustment unit to: receive input pixel color data including at least first and second intensity values for

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first and second primary color components, respectively, determine at least a chromaticity correction for said first primary color component based at least in part on said second primary color component of said input color data, and produce an adjusted intensity value of said first primary color component of said input pixel color data by combining said first primary color component of said input pixel color data and said chromaticity correction for said first color component” as recited in new independent claim 43. Moreover, it would not have been obvious to include these limitations of claim 43 in Chen et al. nor in Taniguchi et al. in view of Hill. Accordingly, independent claim 43 is allowable.

Claims 34-36 and 38-40 depend from, directly or indirectly, claim 43, and therefore include all the limitations of this claim. At least for this reason claims 34-36 and 38-40 are likewise allowable. Accordingly, Applicants respectfully request that the Examiner withdraw the rejections under 35 U.S.C. § 103(a) to claims 34-36 and 38-40.

In the Office Action, the Examiner rejected claims 4-5 and 33 under 35 U.S.C. § 103(a), as being unpatentable over Taniguchi et al. (US Patent No. 6,366,291), in view of Hill et al. (US Patent No. 6,243,070), and in view of Chen et al. (US Patent No. 6,844,881), and further in view of Childs et al. (GB Patent No. 2,282,928). Applicants respectfully traverse this rejection in view of the remarks that follow.

Claims 4, 5 and 33 depend from claims 42 and 43, and therefore include all the limitations of those claims. Claims 42 and 43 are allowable over Taniguchi et al. in view of Hill et al. and Chen et al. Childs et al. do not cure the deficiencies of Taniguchi et al. in view of Hill et al. and Chen et al. At least for this reason claims 4, 5 and 33 are likewise allowable. Accordingly, Applicants respectfully request that the Examiner withdraw the rejections under 35 U.S.C. § 103(a) to claims 4, 5 and 33.

In the Office Action, the Examiner rejected claims 17, 25, 37 and 41 under 35 U.S.C. § 103(a), as being unpatentable over Taniguchi et al. (US Patent No. 6,366,291), in view of Hill et al. (US Patent No. 6,243,070), and in view of Chen et al. (US Patent No. 6,844,881), and further in view of Lin (US Patent No. 6,160,644). Applicants respectfully traverse this rejection in view of the remarks that follow.

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Claims 17, 25, 37 and 41 depend from claims 42 and 43, and therefore include all the limitations of those claims. Claims 42 and 43 are allowable over Taniguchi et al. in view of Hill et al. and Chen et al. Lin does not cure the deficiencies of Taniguchi et al. in view of Hill et al. and Chen et al. At least for this reason, claims 17, 25, 37 and 41 are likewise allowable. Accordingly, Applicants respectfully request that the Examiner withdraw the rejections under 35 U.S.C. § 103(a) to claims 17, 25, 37 and 41.

In the Office Action, the Examiner rejected claim 14 under 35 U.S.C. § 103(a), as being unpatentable over Taniguchi et al. (US Patent No. 6,366,291), in view of Hill et al. (US Patent No. 6,243,070), and in view of Chen et al. (US Patent No. 6,844,881), and further in view of Tanner et al. (US Patent No. 6,496,160). Applicants respectfully traverse this rejection in view of the remarks that follow.

Claim 14 depends from claim 42 and therefore includes all the limitations of this claim. Claim 42 is allowable over Taniguchi et al. in view of Hill et al. and Chen et al. Tanner does not cure the deficiencies of Taniguchi et al. in view of Hill et al. and Chen et al. At least for this reason claim 14 is likewise allowable. Accordingly, Applicants respectfully request that the Examiner withdraw the rejection under 35 U.S.C. § 103(a) to claim 14.

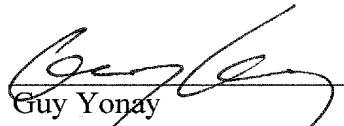
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In view of the foregoing amendments and remarks, the pending claims are deemed to be allowable. Their favorable reconsideration and allowance is respectfully requested.

Should the Examiner have any question or comment as to the form, content or entry of this Amendment, the Examiner is requested to contact the undersigned at the telephone number below. Similarly, if there are any further issues yet to be resolved to advance the prosecution of this application to issue, the Examiner is requested to telephone the undersigned counsel.

Please charge any fees associated with this paper to deposit account No. 50-3355.

Respectfully submitted,



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